

## REMARKS

This responds to the Office Action dated August 7, 2008.

Claims 7, 38, 42, and 45 are amended, and claims 39-41 and 43-44 are canceled; as a result, claims 1-7, 9, 11-38, 42, and 45-55 are now pending in this application.

### §102 Rejection of the Claims Using Daum

Claims 1-6, 9, 11, 13-16, 19-20, 23-26, 28-34, 46 and 52 were rejected under 35 U.S.C. § 102(e) for anticipation by Daum et al. (U.S. Patent No. 7,101,339, herein “Daum”).

#### *Claim 1*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of anticipation because the cited portions of Daum do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Daum, among other things, a processor adapted to compare a first ventilation rate and a second ventilation rate to determine whether the first ventilation rate differs from the second ventilation rate, as recited in claim 1.

The Office Action asserts, in paragraph 7, that “Daum discloses … a processor adapted to compare impedances … (Col. 1, l. 67 & Col. 2, ll. 3-11)”. However, Applicant is unable to find in the cited portions of Daum comparing impedances, much less comparing ventilation rates. Applicant respectfully requests a clarification on how Daum discloses “a processor adapted to compare impedances” as asserted in the Office Action, or withdraw of the rejection.

Additionally, even if Daum discloses “a processor adapted to compare impedances” as asserted in the Office Action, it does not lead to the conclusion that Daum anticipates the claimed subject matter because the processor as recited in claim 1 is adapted to compare ventilation rates rather than impedances. The Office Action asserts, in paragraph 2:

It is noted that transthoracic impedance is proportional to respiratory rate. Thus the relationship between the impedances and the relationship between the respiratory components are equivalents (Col. 1, ll. 35-48).

Applicant respectfully traverses this assertion as an improper reason for supporting a rejection of a device claim for anticipation. It is unclear from the Office Action how Daum compares

impedances and why it is equivalent to comparing ventilation rates as recited in claim 1. Additionally, the cited portion of Daum does not appear to support the assertion that “transthoracic impedance is proportional to respiratory rate”. Applicant respectfully requests a clarification on which structure of Daum anticipates the processor adapted to compare ventilation rates as recited in claim 1, and why, or withdrawal of the rejection.

Applicant respectfully requests reconsideration and allowance of claim 1.

*Claims 2-6 and 9*

Applicant respectfully traverses the rejection. Claims 2-6 and 9 are dependent on claim 1, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 1 is incorporated herein to support the patentability of claims 2-6 and 9.

Applicant respectfully requests reconsideration and allowance of claims 2-6 and 9.

*Claim 11*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of anticipation because the cited portions of Daum do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Daum, among other things, a processor adapted to compare signals received from a plurality of sensors and adjust a pacing rate using a result of the comparison, as recited in claim 11.

Additionally, Applicant is unable to find a specific reason in the Office Action that supports the rejection of claim 11. Applicant respectfully requests such a reason, or withdrawal of the rejection.

Applicant respectfully requests reconsideration and allowance of claim 11.

*Claim 13*

Applicant respectfully traverses the rejection. Claim 13 is dependent on claim 11, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 11 is incorporated herein to support the patentability of claim 13.

Applicant respectfully requests reconsideration and allowance of claim 13.

*Claim 14*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of anticipation because the cited portions of Daum do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Daum, among other things, a processor adapted to determine a difference between a first ventilation rate and a second ventilation rate, as recited in claim 14.

Because claims 1 and 14 are rejection on the same ground, the discussion above supporting the patentability of claim 1 over Daum is incorporated herein to support the patentability of claim 14.

Applicant respectfully requests reconsideration and allowance of claim 14.

*Claims 15-16 and 19-20*

Applicant respectfully traverses the rejection. Claims 15-16 and 19-20 are dependent on claim 14, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 14 is incorporated herein to support the patentability of claims 15-16 and 19-20.

Applicant respectfully requests reconsideration and allowance of claims 15-16 and 19-20.

*Claims 23-24*

Applicant respectfully traverses the rejection. Claims 23-24 are dependent on claim 21, which is not rejected under 35 U.S.C. §102(e). Applicant respectfully submits that because claim 23-24 includes each and every element of claim 21, they cannot be anticipated by Daum if claim 21 is not anticipated by Daum.

Applicant respectfully requests reconsideration and allowance of claims 23-24.

*Claim 25*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of anticipation because the cited portions of Daum do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions

of Daum, among other things, comparing a first ventilation rate to a second ventilation rate, and adjusting a pacing therapy using a result of the comparison, as recited in claim 25.

Because claims 1 and 25 are rejection on the same ground, the discussion above supporting the patentability of claim 1 over Daum is incorporated herein to support the patentability of claim 25.

Applicant respectfully requests reconsideration and allowance of claim 25.

*Claims 26 and 28*

Applicant respectfully traverses the rejection. Claims 26 and 28 are dependent on claim 25, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 25 is incorporated herein to support the patentability of claims 26 and 28.

Applicant respectfully requests reconsideration and allowance of claims 26 and 28.

*Claim 29*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of anticipation because the cited portions of Daum do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Daum, among other things, a processor adapted to determine whether a first ventilation rate substantially differs from a second ventilation rate, as recited in claim 29.

Because claims 1 and 29 are rejection on the same ground, the discussion above supporting the patentability of claim 1 over Daum is incorporated herein to support the patentability of claim 29.

Applicant respectfully requests reconsideration and allowance of claim 29.

*Claims 30-34*

Applicant respectfully traverses the rejection. Claims 30-34 are dependent on claim 29, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 29 is incorporated herein to support the patentability of claims 30-34.

Applicant respectfully requests reconsideration and allowance of claims 30-34.

*Claim 46*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of anticipation because the cited portions of Daum do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Daum, among other things, using a processor to detect a similarity between signals of a plurality of input signals including at least a first ventilation rate and a second ventilation rate, and delivering therapy to the heart based on the detected similarity, as recited in claim 46.

Because claims 1 and 46 are rejection on the same ground, the discussion above supporting the patentability of claim 1 over Daum is incorporated herein to support the patentability of claim 46.

Applicant respectfully requests reconsideration and allowance of claim 46.

*Claim 52*

Applicant respectfully traverses the rejection. Claim 52 is dependent on claim 46, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 46 is incorporated herein to support the patentability of claim 52.

Applicant respectfully requests reconsideration and allowance of claim 52.

§102 Rejection of the Claims Using Wang

Claims 1-6, 9, 11, 13-16, 19-20, 25-26, 28-34, 46 and 52 were rejected under 35 U.S.C. § 102(e) for anticipation by Wang et al. (U.S. Publication 2005/0080460, herein “Wang”).

*Claim 1*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of anticipation because the cited portions of Wang do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Wang, among other things, a processor adapted to compare a first ventilation rate and a second ventilation rate to determine whether the first ventilation rate differs from the second ventilation rate, as recited in claim 1.

The Office Action asserts, in paragraph 10, that “Wang discloses … a processor to cross-check impedance measurements using two different impedance measurements (e.g. ABSTRACT; ¶¶ 35-40, 116)”. However, Applicant is unable to find in the cited portions of Wang comparing ventilation rates. The Office Action asserts, in paragraph 3:

It is noted that transthoracic impedance is proportional to respiratory rate. Thus the relationship between the impedances and the respiratory component are equivalents (Paragraph 95).

Applicant respectfully traverses this assertion as an improper reason for supporting a rejection of a device claim for anticipation. The cited Paragraph 95 of Wang relates to “derivation of … a respiration rate from cardiac-gated impedance measurements”. Applicant is unable to find in Wang that the derived respiration rate is used for cross-checking of impedance measurements. Even if the “relationships” are equivalents, the Office Action fails to show that a processor adapted to compare two ventilation rates is equivalent to a processor adapted to compare two impedances. Additionally, while the respiration rate is derived from impedance, the Office Action fails to provide a basis for the assertion that “transthoracic impedance is proportional to respiratory rate”.

Applicant respectfully requests reconsideration and allowance of claim 1.

*Claims 2-4, 6, and 9*

Applicant respectfully traverses the rejection. Claims 2-4, 6, and 9 are dependent on claim 1, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 1 is incorporated herein to support the patentability of claims 2-4, 6, and 9.

Applicant respectfully requests reconsideration and allowance of claims 2-4, 6, and 9.

*Claim 11*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of anticipation because the cited portions of Wang do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Wang, among other things, a processor adapted to compare signals received from a plurality of sensors and adjust a pacing rate using a result of the comparison, as recited in claim 11.

Additionally, Applicant is unable to find a specific reason in the Office Action that supports the rejection of claim 11. Applicant respectfully requests such a reason, or withdrawal of the rejection.

Applicant respectfully requests reconsideration and allowance of claim 11.

*Claim 13*

Applicant respectfully traverses the rejection. Claim 13 is dependent on claim 11, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 11 is incorporated herein to support the patentability of claim 13.

Applicant respectfully requests reconsideration and allowance of claim 13.

*Claim 14*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of anticipation because the cited portions of Wang do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Wang, among other things, a processor adapted to determine a difference between a first ventilation rate and a second ventilation rate, as recited in claim 14.

Because claims 1 and 14 are rejection on the same ground, the discussion above supporting the patentability of claim 1 over Wang is incorporated herein to support the patentability of claim 14.

Applicant respectfully requests reconsideration and allowance of claim 14.

*Claims 15-16 and 19-20*

Applicant respectfully traverses the rejection. Claims 15-16 and 19-20 are dependent on claim 14, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 14 is incorporated herein to support the patentability of claims 15-16 and 19-20.

Applicant respectfully requests reconsideration and allowance of claims 15-16 and 19-20.

*Claim 25*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of anticipation because the cited portions of Wang do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Wang, among other things, comparing a first ventilation rate to a second ventilation rate, and adjusting a pacing therapy using a result of the comparison, as recited in claim 25.

Because claims 1 and 25 are rejection on the same ground, the discussion above supporting the patentability of claim 1 over Wang is incorporated herein to support the patentability of claim 25.

Applicant respectfully requests reconsideration and allowance of claim 25.

*Claims 26 and 28*

Applicant respectfully traverses the rejection. Claims 26 and 28 are dependent on claim 25, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 25 is incorporated herein to support the patentability of claims 26 and 28.

Applicant respectfully requests reconsideration and allowance of claims 26 and 28.

*Claim 29*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of anticipation because the cited portions of Wang do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Wang, among other things, a processor adapted to determine whether a first ventilation rate substantially differs from a second ventilation rate, as recited in claim 29.

Because claims 1 and 29 are rejection on the same ground, the discussion above supporting the patentability of claim 1 over Wang is incorporated herein to support the patentability of claim 29.

Applicant respectfully requests reconsideration and allowance of claim 29.

*Claims 30-34*

Applicant respectfully traverses the rejection. Claims 30-34 are dependent on claim 29, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 29 is incorporated herein to support the patentability of claims 30-34.

Applicant respectfully requests reconsideration and allowance of claims 30-34.

*Claim 46*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of anticipation because the cited portions of Wang do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Wang, among other things, using a processor to detect a similarity between signals of a plurality of input signals including at least a first ventilation rate and a second ventilation rate, and delivering therapy to the heart based on the detected similarity, as recited in claim 46.

Because claims 1 and 46 are rejection on the same ground, the discussion above supporting the patentability of claim 1 over Wang is incorporated herein to support the patentability of claim 46.

Applicant respectfully requests reconsideration and allowance of claim 46.

*Claim 52*

Applicant respectfully traverses the rejection. Claim 52 is dependent on claim 46, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 46 is incorporated herein to support the patentability of claim 52.

Applicant respectfully requests reconsideration and allowance of claim 52.

§103 Rejection of the Claims

Claims 7, 12, 17-18, 21-24, 27, 35-40, 42-45, 47-51 and 53-55 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Hine et al. (U.S. Patent No. 7,142,919, herein “Hine”).

*Claim 7*

Claim 7 has been amended to correct typographical errors.

Applicant respectfully traverses the rejection. Claim 7 is dependent on claim 1, which is believed to be allowable for at least the reasons set forth above. It is believed that the addition of Hine does not remedy the deficiency of Wang as discussed above. Therefore, the discussion above for claim 1 is incorporated herein to support the patentability of claim 7.

Additionally, Applicant is unable to find in the cited portions of Wang and Hine, individually or in combination, among other things, a processor is adapted to cross check a first ventilation rate and a second ventilation rate with an acceleration signal. The Office Action asserts, in paragraph 15, that “[i]t would have been obvious ... to modify the impedance monitoring system as taught by Wang, with the impedance and acceleration system as taught by Hine, since such a modification would provide the impedance system with more accurate way to determine activity for providing improved pacing during physical activity”. However, it is unclear from this assertion of obviousness whether and how the modified “impedance monitoring system” cross checks ventilation rates with an acceleration signal as recited in claim 7, and why that would have been obvious. Applicant respectfully requests clearly articulated reasoning with some rational underpinning to support the legal conclusion of obviousness, or withdrawal of the rejection.

Applicant respectfully requests reconsideration and allowance of claim 7.

*Claim 12*

Applicant respectfully traverses the rejection. Claim 12 is dependent on claim 11, which is believed to be allowable for at least the reasons set forth above. It is believed that the addition of Hine does not remedy the deficiency of Wang as discussed above. Therefore, the discussion above for claim 11 is incorporated herein to support the patentability of claim 12.

Applicant respectfully requests reconsideration and allowance of claim 12.

*Claims 17-18*

Applicant respectfully traverses the rejection. Claims 17-18 are dependent on claim 14, which is believed to be allowable for at least the reasons set forth above. It is believed that the

addition of Hine does not remedy the deficiency of Wang as discussed above. Therefore, the discussion above for claim 14 is incorporated herein to support the patentability of claims 17-18.

Applicant respectfully requests reconsideration and allowance of claims 17-18.

*Claim 21*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of obviousness because the cited portions of Wang and Hine, individually or in combination with each other and reasoning given in the Office Action, do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Wang and Hine, individually or in combination, among other things, a processor adapted to receive the first ventilation signal, the second ventilation signal and the first acceleration signal and adapted to cross check the first ventilation signal and the second ventilation signal with the first acceleration signal, as recited in claim 21. Applicant is also unable to find in the Office Action a reason that remedies this deficiency.

Because claims 7 and 21 are rejection on the same ground, the discussion above supporting the patentability of claim 7 over Wang and Hine is incorporated herein to support the patentability of claim 21.

Applicant respectfully requests reconsideration and allowance of claim 21.

*Claims 22-24*

Applicant respectfully traverses the rejection. Claims 22-24 are dependent on claim 21, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 21 is incorporated herein to support the patentability of claims 22-24.

Applicant respectfully requests reconsideration and allowance of claims 22-24.

*Claim 27*

Applicant respectfully traverses the rejection. Claim 27 is dependent on claim 25, which is believed to be allowable for at least the reasons set forth above. It is believed that the addition of Hine does not remedy the deficiency of Wang as discussed above. Therefore, the discussion above for claim 25 is incorporated herein to support the patentability of claim 27.

Applicant respectfully requests reconsideration and allowance of claim 27.

*Claims 35-37*

Applicant respectfully traverses the rejection. Claims 35-37 are dependent on claim 29, which is believed to be allowable for at least the reasons set forth above. It is believed that the addition of Hine does not remedy the deficiency of Wang as discussed above. Therefore, the discussion above for claim 29 is incorporated herein to support the patentability of claims 35-37.

Applicant respectfully requests reconsideration and allowance of claims 35-37.

*Claim 38*

Claim 38 has been amended. Support for the amendment is found, for example, in claims 38 and 42-43 as originally filed.

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of obviousness because the cited portions of Wang and Hine, individually or in combination with each other and reasoning given in the Office Action, do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Wang and Hine, individually or in combination, among other things, comparing a first acceleration signal and a second acceleration signal, and delivering a second therapy regimen to the heart if the first acceleration signal is substantially different from the second acceleration signal, the second therapy regimen selected as a function of a ventilation signal, as recited in claim 38. Applicant is also unable to find in the Office Action a reason that remedies this deficiency.

Applicant respectfully requests reconsideration and allowance of claim 38.

*Claims 39-40 and 42-45*

Claims 39-40 and 43-44 have been canceled.

Applicant respectfully traverses the rejection. Claims 42 and 45 are dependent on claim 38, which is believed to be allowable for at least the reasons set forth above. Therefore, the discussion above for claim 38 is incorporated herein to support the patentability of claims 42 and 45.

Applicant respectfully requests reconsideration and allowance of claims 42 and 45.

*Claims 47-51*

Applicant respectfully traverses the rejection. Claims 47-51 are dependent on claim 46, which is believed to be allowable for at least the reasons set forth above. It is believed that the addition of Hine does not remedy the deficiency of Wang as discussed above. Therefore, the discussion above for claim 46 is incorporated herein to support the patentability of claims 47-51.

Applicant respectfully requests reconsideration and allowance of claims 47-51.

*Claim 53*

Applicant respectfully traverses the rejection and submits that the Office Action does not set forth a proper *prima facie* case of obviousness because the cited portions of Wang and Hine, individually or in combination with each other and reasoning given in the Office Action, do not provide the recited subject matter. For example, Applicant is unable to find in the cited portions of Wang and Hine, individually or in combination, among other things, processor means adapted to generate a code as a function of a detected similarity between a first ventilation signal, a second ventilation signal and a first acceleration signal, as recited in claim 53. Applicant is also unable to find in the Office Action a reason that remedies this deficiency.

The Office Action asserts, in paragraph 15, that “[i]t would have been obvious ... to modify the impedance monitoring system as taught by Wang, with the impedance and acceleration system as taught by Hine, since such a modification would provide the impedance system with more accurate way to determine activity for providing improved pacing during physical activity”. However, it is unclear from this assertion of obviousness whether and how the modified “impedance monitoring system” generates a code as a function of a detected similarity between a first ventilation signal, a second ventilation signal and a first acceleration signal, as recited in claim 53, and why that would have been obvious. Applicant respectfully requests clearly articulated reasoning with some rational underpinning to support the legal conclusion of obviousness, or withdrawal of the rejection.

Applicant respectfully requests reconsideration and allowance of claim 53.

*Reservation of the Right to Swear Behind References*

Applicant reserves its right to swear behind any references which are cited in a rejection under 35 U.S.C. §§102(e) and 103/102(e). Statements distinguishing the claimed subject matter over the cited references are not to be interpreted as admissions that the references are prior art.

### CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (612) 373-6965 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date November 7, 2008 By \_\_\_\_\_

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on November 7, 2008.

Nicole Tang  
Name \_\_\_\_\_

Signature